

A NOTE ABOUT THE SAMPLE ACTIVITIES

The following are sample activities designed to show you examples of possible activities for each API. You are not required to use these specific activities in your portfolios. The APIs used in this document come from the column for grades K-2 in the TCAP-Alt Performance Indicators document, which is available on the Tennessee State Department of Education website. The URL is: <http://www.tennessee.gov/education/speced/assessment.shtml#tcap>. Scroll down to the "Alternate Assessment" section.

Activities should be written in the past tense (e.g., "[Student's name] completed . . ."), since the evidence sheet should be filled out after the activity has been completed. Be sure to use the student's name when describing what he or she did during the activity (e.g., not, "The student poured hydrogen peroxide over a raw potato," but "Anaxamander poured hydrogen peroxide over a raw potato.").

Content Standard: LIFE SCIENCE (Cell Structure and Function)

Standard: *The student will investigate the structure and function of plant and animal cells.*

Alternate Learning Expectation (ALE): LS.1A *Recognize that living things are made up of smaller parts that contribute to the operation and well-being of entire organisms*

Alternate Performance Indicator (API): LS.1A.1 *Responds to living organisms (e.g., animals, plants, people)*

Sample Activities:

- The teacher placed a live rabbit on [student's name]'s lap, helped [student's name] touch the rabbit's fur and whiskers, and held the rabbit to [student's name]'s face. [Student's name] responded to the rabbit by attempting to stroke it, tracking it with his/her eyes, and making facial expressions in response to the animal's movements and behaviors.
- As [student's name] entered science class, he/she was greeted by name by a peer. In response, [student's name] touch-activated the his "Big Mac" switch, which said, "Hi. What's up?" Two other peers greeted [student's name] by name, and each time, [student's name] responded by activating the switch.
- The teacher placed a bouquet of six roses in a variety of colors (and with the thorns removed) on [student's name] wheelchair tray. [Student's name] reached for and touched the petals, leaves, and stem, with help from the teacher as needed. The teacher stroked [student's name]'s cheek with each flower, and then helped him/her smell the blossom. The teacher verbally described each rose by color as it was presented. [Student's name] responded with vocalizations and facial expressions.

Content Standard: LIFE SCIENCE (Cell Structure and Function)

Standard: *The student will investigate the structure and function of plant and animal cells.*

Alternate Learning Expectation (ALE): LS.1A *Recognize that living things are made up of smaller parts that contribute to the operation and well-being of entire organisms*

Alternate Performance Indicator (API): LS.1A.2 *Identify plants and animals*

Sample Activities:

- With the teacher's help, [student's name] looked through a *National Geographic* magazine. The teacher pointed to pictured objects, plants, or animals and asked, "Is this an animal?" [Student's name] nodded yes or shook his/her head no.
- Given two pictures, one of a plant and one of an animal, [student's name] responded to the question, "Which is the animal?" by pointing to the picture of the animal. When asked, "Which is the plant?" [student's name] pointed to the picture of the plant. This sequence was repeated for a series of five pairs of photographs.
- Given magazines, scissors, glue, and two poster boards (one labeled "plants" and one labeled "animals"), [student's name] cut out pictures of plants and animals from the magazines and glued each one to the correct poster board.
- Given pictures of five familiar animals—horse, dog, cat, bird, and snake—[student's name] verbally identified each.
- On a field trip to the zoo, [student's name] verbally named familiar animals when asked, "What is that?" by a peer partner. The peer praised [student's name] when he/she answered correctly and told him/her the correct name when he/she was wrong.
- On a field trip to a greenhouse, [student's name] correctly identified familiar plants by pointing to each upon request (e.g., Where is the rose? Where is the fern? Where is the sunflower?).

Content Standard: LIFE SCIENCE (Cell Structure and Function)

Standard: *The student will investigate the structure and function of plant and animal cells.*

Alternate Learning Expectation (ALE): LS.1A *Recognize that living things are made up of smaller parts that contribute to the operation and well-being of entire organisms*

Alternate Performance Indicator (API): LS.1A.3 *Indicate appropriate uses of a magnifier*

Sample Activities:

- A magnifying glass was placed in front of [student's name], and he/she reached for it when encouraged to do so by the teacher.
- A magnifying glass was placed in front of [student's name], and he/she grasped the handle when encouraged to do so by a peer.
- Given a magnifying glass and a collection of five small objects—marble, thimble, penny, piece of dandelion fluff, and seashell—[student's name] looked through the magnifying glass to see the objects in greater detail. When asked what he/she saw, [student's name] verbally described each magnified object as he/she looked at it.

Content Standard: LIFE SCIENCE (Interactions between living things and their environment)

Standard: *The student will investigate how living things interact with one another and with non-living elements of their environment.*

Alternate Learning Expectation (ALE): LS.2A. *Recognize the distinction between living and non-living things*

LS.2B. *Realize that organisms use their senses to interact with their environment*

LS.2C. *Examine interrelationships among plants, animals, and their environment*

LS.2D. *Recognize that the environment and the organisms that live in it can be affected by pollution*

LS.2E. *Investigate how living things interact with one another and with non-living elements of their environment*

Alternate Performance Indicator (API): LS.2A-E.1 *Responds to sensory input*

Sample Activities:

- LS.2A.1: The teacher placed a toy truck on [student's name]'s lap and helped [student's name] explore the way the truck looked and felt. [Student's name] responded through facial expressions and by touching the truck. The teacher and peers discussed how they could tell that the truck is not a living thing. Next, the teacher placed a live kitten on [student's name]'s lap and helped [student's name] explore the way the kitten looked and felt. [Student's name] responded through facial expressions and vocalizations and by touching the kitten. The teacher and peers discussed how they could tell that the kitten is a living thing.
- LS.2A.1: The teacher gently stroked [student's name]'s hands and arms with a variety of textured objects (e.g., a silk scarf, a scrap of velvet, a square of slick vinyl, a piece of nubby wool) and talked about the differences in how each one felt.
- LS.2A.1: The teacher helped [student's name] smell, taste, and touch a variety of fruits and vegetables cut into small bites. As [student's name] explored each, the teacher named each one and discussed how it looked, tasted, smelled, and felt.
- LS.2B.1: [Student's name] looked at, smelled, touched, and tasted a real apple and then looked at, smelled, and touched a plastic apple. Then [student's name] smelled a real mint leaf and a plastic mint leaf. The teacher explained the differences between them as [student's name] explored them. (Prerequisite)
- LS.2C.1: [Student's name] watched and discussed the actions of a pair of anole lizards in their terrarium, which incorporated live plants.
- LS.2D.1: [Student's name] went on a nature walk with the teacher and a small group of peers. The teacher and peers pointed out litter and other evidence of pollution, and [student's name] responded by looking in the designated direction.
- LS.2E.1: [Student's name] watched and discussed the actions of the classroom gerbils playing with the toys in their Habitrail.

Content Standard: LIFE SCIENCE (Interactions between living things and their environment)

Standard: *The student will investigate how living things interact with one another and with non-living elements of their environment.*

Alternate Learning Expectation (ALE): LS.2A. *Recognize the distinction between living and non-living things*

LS.2B. *Realize that organisms use their senses to interact with their environment*

LS.2C. *Examine interrelationships among plants, animals, and their environment*

LS.2D. *Recognize that the environment and the organisms that live in it can be affected by pollution*

LS.2E. *Investigate how living things interact with one another and with non-living elements of their environment*

Alternate Performance Indicator (API): LS.2A-E.2 *Attend to and interact with surroundings*

Sample Activities:

- LS.2A.2: A peer took [student's name] on a walk around the school, pointing to various living things (e.g., plant, class pet, teacher, student) and non-living things (e.g., desk, pencil, door, water fountain) and asking, "Is this alive?" [Student's name] answered either verbally or by nodding his/her head yes or shaking his/her head no.
- LS.2B.2: On a class trip to a petting zoo with farm animals, [student's name] used his/her senses to interact with the animals in a constructive manner and explore a farm environment. He/she fed the goats and felt their warm, wet tongues on his fingers; stroked the horse's mane and body; rode the horse; ground dried corn in a hand mill and smelled its aroma; and rode an open train and listened to the train whistle. [Student's name] answered simple questions during the trip about what he/she was experiencing with his/her senses.
- LS.2B.2: Given four foods—pineapple, apple, orange, and coconut—[student's name], with the teacher's help, explored each food by looking at, touching, and smelling it. Then the teacher cut each food open and [student's name] explored the texture, smell, and taste of each food.
- LS.2C.2: With hand-over-hand assistance as needed, [student's name] helped assemble a terrarium (including live plants) to be used as a habitat for a pair of anole lizards.
- LS.2D.2: During a "community clean-up" project, a peer helped [student's name] identify pieces of trash to pick up and encouraged [student's name] to pick them up. [Student's name] picked up each piece of trash and put it in a garbage sack carried by the peer.
- LS.2E.2: On a field trip to the zoo, [student's name] watched the animals interact with each and their environment. [Student's name] and his/her assigned "buddy" discussed each animal's behavior in relation to the other animals and its environment.

Content Standard: LIFE SCIENCE (Interactions between living things and their environment)

Standard: *The student will investigate how living things interact with one another and with non-living elements of their environment.*

Alternate Learning Expectation (ALE): LS.2A. *Recognize the distinction between living and non-living things*

LS.2B. *Realize that organisms use their senses to interact with their environment*

LS.2C. *Examine interrelationships among plants, animals, and their environment*

LS.2D. *Recognize that the environment and the organisms that live in it can be affected by pollution*

LS.2E. *Investigate how living things interact with one another and with non-living elements of their environment*

Alternate Performance Indicator (API): LS.2A-E.3 *Recognize that there are five senses*

Sample Activities:

- LS.2A.3: [student's name] and a small group of peers were given pictures of five living things and five non-living things. They discussed whether the subject of the picture could see, smell, taste, and touch; whether it was alive or not; and how they knew. Then they sorted the pictures correctly into the categories "living" and "non-living."
- LS.2B.3: The students watched a video on volcanoes. After the video, each student was instructed to make a fist and hold up his/her arm. The teacher pressed on each student's hand to demonstrate pressure. Then students answered a series of questions about what it would be like to experience a volcanic eruption (e.g., Can you hear a volcano erupt? What would it sound like? What would you see? What might you feel? What would the air smell like? If you took a breath with your mouth, what would you taste?). After answering these questions, each student drew a picture on art paper of a volcano erupting.
- LS.2B.3: [Student's name] participated in a class activity in which the teacher asked questions about which body part is used for a given sense (e.g., What do you smell with? What do you taste with?), and [student's name] and class pointed to his/her appropriate body part.
- LS.2C.3: [Student's name] watched a video about rabbits, then discussed with a small group of peers how the rabbits used their five senses to survive in the wild.
- LS.2D.3: [Student's name] accompanied the class on a trip to a landfill. They discussed how the air around the landfill smells, how the area looked, and how the local people and wildlife might be affected by living near the landfill.
- LS.2E.3: [Student's name] played with the classroom guinea pig, and then discussed how the guinea pig used its senses to interact with [student's name] and with the nonliving objects in its cage.
- [Student's name] explored the following items using all five senses: tasted—lemon, cookie; touched—cotton, driftwood; smelled—perfume, coffee beans; listened—music, rain stick; looked—photograph, mobile.

Content Standard: LIFE SCIENCE (Interactions between living things and their environment)

Standard: *The student will investigate how living things interact with one another and with non-living elements of their environment.*

Alternate Learning Expectation (ALE): LS.2A. *Recognize the distinction between living and non-living things*

LS.2B. *Realize that organisms use their senses to interact with their environment*

LS.2C. *Examine interrelationships among plants, animals, and their environment*

LS.2D. *Recognize that the environment and the organisms that live in it can be affected by pollution*

LS.2E. *Investigate how living things interact with one another and with non-living elements of their environment*

Alternate Performance Indicator (API): LS.2A-E.4 *Demonstrate use of the senses to explore the environment*

Sample Activities:

- LS.2A.4: [Student's name] went on a nature walk with peers. They used disposable cameras to take pictures of living things. The pictures were then put in a scrapbook about living things.
- LS.2B.4: After being blindfolded, [student's name] and peers explored the look, feel, and taste of Jell-o, pudding, cooked spaghetti, raw spaghetti, grapes, Triscuits, cashews, raw broccoli, raw jicama strips, and lemon slices. The group discussed each item after everyone had a chance to try it.
- LS.2B.4: [Student's name] listened to a lecture about how animals use their senses for survival. Then each student was provided with ear plugs, a blindfold, and gloves and asked to perform various tasks (e.g., finding a wedge of grapefruit while blindfolded and using the sense of smell; explaining the taste of a piece of candy; identifying a series of sounds with and without earplugs). [Student's name] completed each task and participated in a discussion of how each sense might help an animal or person to explore their environment and survive in it.
- LS.2B.4: Given pictures of objects, along with a word used to describe each object (e.g., colorful balloons, ringing alarm clock), [student's name] explained which sense he/she would use to describe each object.
- LS.2C.4: [Student's name] accompanied the class on a field trip to the Botanical Gardens. Afterward, he/she used tempera paints to paint a picture of the plants and animals (e.g., butterflies, insects, Koi fish, birds) seen there.
- LS.2D.4: [Student's name] accompanied the class to the stingray petting tank, where he/she fed and petted the stingrays. He/she described how the stingray looked and felt and how the tank smelled.
- LS.2E.4: [Student's name] accompanied the class on a field trip to the lorikeet aviary at the zoo. He/she fed the birds nectar and described how the birds looked and sounded and how it felt when the birds landed on him/her to drink the nectar.

Content Standard: LIFE SCIENCE (Interactions between living things and their environment)

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Alternate Learning Expectation (ALE): LS.2A. *Recognize the distinction between living and non-living things*

LS.2B. *Realize that organisms use their senses to interact with their environment*

LS.2C. *Examine interrelationships among plants, animals, and their environment*

LS.2D. *Recognize that the environment and the organisms that live in it can be affected by pollution*

LS.2E. *Investigate how living things interact with one another and with non-living elements of their environment*

Alternate Performance Indicator (API): LS.2A-E.5 *Demonstrate knowledge of cause and effect by expecting specific results*

Sample Activities:

- LS.2A.5: Given a baby chick and a metal spoon, [student's name] responded correctly to a question about which was alive and which was not. Then, when asked what would happen if [student's name] touched the chick and the spoon, [student's name] made a reasonable prediction about the behavior of each. [Student's name] then tested his/her prediction by touching both. Next, [student's name] predicted what would happen if he/she placed a kernel of corn in front of the chick and the spoon. He/she tested that prediction as well.
- LS.2B.5: [Student's name] predicted how a pet rat used its senses to explore each of the following four new objects placed one at a time into its cage: cardboard tube, apple slice, run-on wheel, and seed-and-honey treat stick. Each object was placed in the cage after [student's name]'s prediction to see if the prediction was correct.
- LS.2C.5: [Student's name] predicted what anoles' behavior would be if a new plant were added to their terrarium. Then the plant was put in the habitat to see if [student's name]'s prediction was correct.
- LS.2D.5: [Student's name] watched a video about how pollution may cause genetic defects in frogs. The video was paused at intervals, and [student's name] was asked to predict what would happen next.
- LS.2E.5: With the teacher's assistance as needed, [student's name] read a pop-up book about animals and their environments. [Student's name] made predictions about what would happen when each flap was pulled or opened.

Content Standard: LIFE SCIENCE (Interactions between living things and their environment)

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LS.2B. *Realize that organisms use their senses to interact with their environment*

LS.2C. *Examine interrelationships among plants, animals, and their environment*

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LS.2E. *Investigate how living things interact with one another and with non-living elements of their environment*

Alternate Performance Indicator (API): LS.2A-E.6 *Recognize how plants and animals interact with each other in their environment*

Sample Activities:

- LS.2A.6: The teacher showed the class three live plants—a spider plant, a miniature rose bush, and a cactus—and one dead plant. [Student's name] participated in a class discussion about how we can know if a plant is alive or dead.
- LS.2B.6: [Student's name] watched a short video about rabbits. Then he/she and a small group of peers discussed how the rabbit used its senses to find food, find shelter, and detect danger.
- LS.2C.6: [Student's name] listened to a park ranger speak about how environmental issues that affect plants also affect animals, and vice versa.
- LS.2C.6: [Student's name] watched a video about the plants and animals of the rain forest and how they interact.
- LS.2C.6: [Student's name] helped a group of peers draw and color a map of an African savannah and place plastic animals on it in numbers that would proportionally represent their numbers in real life. The group added or subtracted animals in response to scenarios proposed by the teacher (e.g., a drought kills the plants and dries up the water; poachers kill most of the apex predators; developers take half of the land for houses and businesses; a brush fire destroys many of the plants and animals; the number of prey animals decreases dramatically due to illness or overhunting). These scenarios demonstrated the connections between the animals and their environment.
- LS.2D.6: [Student's name] used photos, glue, and markers to make a poster about the effects of water pollution on plants and animals.
- LS.2E.6: After reading a book about the ways in which butterflies and flowers benefit from each other, [student's name] helped plant a butterfly garden outside the classroom.

Content Standard: LIFE SCIENCE (Interactions between living things and their environment)

Standard: *The student will investigate how living things interact with one another and with non-living elements of their environment.*

Alternate Learning Expectation (ALE): LS.2A. *Recognize the distinction between living and non-living things*

LS.2B. *Realize that organisms use their senses to interact with their environment*

LS.2C. *Examine interrelationships among plants, animals, and their environment*

LS.2D. *Recognize that the environment and the organisms that live in it can be affected by pollution*

LS.2E. *Investigate how living things interact with one another and with non-living elements of their environment*

Alternate Performance Indicator (API): LS.2A-E.7 *Identify examples of pollutants found in the environment (e.g., garbage, mold)*

Sample Activities:

- LS.2A.7: On a poster, the teacher put pictures of living things (e.g., turtle, salamander, fish, frog, deer) and non-living things (e.g., rock, dead branch) found in or near a pond. Then pictures of various environmental pollutants (e.g., garbage, mold, Clorox) were shown to the class. [Student's name] participated in a class discussion about which of the animals or objects would be affected by each pollutant, and in what way.
- LS.2B.7: Given poster board and photos of different types of pollutants (e.g., garbage, car exhaust, smoke), [student's name] glued them to the board to make a poster about pollutants and which of the five senses might be involved in identifying them.
- LS.2C.7: During a small-group activity, [student's name] helped compile a list of various environmental pollutants (e.g., garbage, car exhaust, smoke) and discussed how each affects the plants and animals in the environment.
- LS.2D.7: [Student's name] accompanied the class on a walk to a nearby creek. He/she participated in a discussion about pollutants and how they can affect the plants and animals that live and around the creek.
- LS.2E.7: [Student's name] participated in an activity in which each student was given a nametag identifying him/her either as something in the environment (e.g., grass, water, insect, songbird, fish, osprey, deer, wolf) or a type of pollutant (e.g., air pollution, pesticide, litter, water pollution). [Student's name] portrayed a wolf. Each student with an environmental label was connected to the appropriate others by a length of yarn (e.g., the deer was connected to the wolf, the grass, and the water; the wolf was connected to the deer and the water; the fish was connected to the water and the osprey). When the "pollutants" were brought in, the things they would directly affect were removed from the web. The plants/animals/elements attached to those things were then also removed. After the entire web had collapsed, the class discussed how the things in the environment were related and what happens when one of those things is damaged or removed.
- LS.2E.7: [Student's name] helped pick up trash on the school grounds. (Prerequisite)

Content Standard: LIFE SCIENCE (Diversity and Adaptation Among Living Things)

Standard: *The student will understand that living things have characteristics that enable them to survive in their environment.*

Alternate Learning Expectation (ALE): LS.3A. *Recognize the differences among plants and animals of the same kind, including the features that help them to survive in different environments*

Alternate Performance Indicator (API): LS.3A.1 *Distinguish between plants and animals*

Sample Activities:

- On a field trip to the zoo, [student's name]'s peer partner pointed to various plants and animals along the trail and asked, "Is this a plant or an animal? ... How can you tell?" [Student's name] responded verbally. The peer praised [student's name] for correct answers and, when he/she was incorrect, the peer gave verbal cues to help him/her arrive at the correct answer.
- Given magazines, scissors, and glue, [student's name] cut out pictures of plants and animals and glued them into the correct column of a poster divided into two columns, one labeled "plants" and the other labeled "animals."
- Given 20 index cards (ten with pictures of plants and 10 with pictures of animals) and a folder with two pockets, one labeled "plants" and one labeled "animals," [student's name] put each card in the correct pocket.
- Given a poster with plants and animals on it and asked to identify the animals, [student's name] pointed to the animals rather than to the plants.
- [Student's name] was shown a poster depicting different plants and a poster depicting different animals. In a group discussion led by the teacher, [student's name] and a group of peers talked about what the plants have in common with each other, what the animals have in common with each other, and how the plants and animals are different.
- Given a set of pictures from various magazines, [student's name] verbally responded to questions about distinct differences between plants and animals.

Content Standard: LIFE SCIENCE (Diversity and Adaptation Among Living Things)

Standard: *The student will understand that living things have characteristics that enable them to survive in their environment.*

Alternate Learning Expectation (ALE): LS.3A. *Recognize the differences among plants and animals of the same kind, including the features that help them to survive in different environments*

Alternate Performance Indicator (API): LS.3A.2. *Match an organism that belongs in a specific environment (e.g., fish–water, bird–air)*

Sample Activities:

- [Student's name] helped a group of peers create a multimedia (e.g., sponge painting for bark, yarn for vines, construction paper for leaves) mural of a rain forest with a river running through it. Once the landscape was created, [student's name] helped place birds, fish, insects, reptiles, amphibians, and mammals in appropriate locations on the mural.
- Using paint, markers, and colored pencils, [student's name] created a poster depicting a robin, a rabbit, a deer, a koi fish, a turtle, and a salamander in appropriate habitats.
- Given 20 index cards with pictures of animals from various environments and a folder with four pockets labeled "water," "tree," "desert," and "meadow," [student's name] designated the environment in which the pictured animal belongs by placing each of the cards in the appropriate pocket.
- [Student's name] watched a slide show about animals that live in water.
- [Student's name] made a shoebox diorama (using plastic animals and model railroad terrain) showing animals that live in the forest.
- When given a picture of an organism and a choice between two pictured environments, [student's name] named the organism and pointed to the environment in which that organism is most likely to be found.
- [Student's name] was shown four environments pictured on a poster board. Next, [student's name] was given a picture book with pictures of animals from the four pictured environments. When shown each animal and asked, "Where does this animal live?" [student's name] pointed to the picture of the correct environment.

Content Standard: LIFE SCIENCE (Diversity and Adaptation Among Living Things)

Standard: *The student will understand that living things have characteristics that enable them to survive in their environment.*

Alternate Learning Expectation (ALE): LS.3A. *Recognize the differences among plants and animals of the same kind, including the features that help them to survive in different environments*

Alternate Performance Indicator (API): LS.3A.3. *Identify differences of plants and animals of the same kind*

Sample Activities:

- [Student's name] and the teacher looked through an encyclopedia of dog breeds and talked about the ways in which the various breeds are different (e.g., the dachshund has a long body and short legs; the poodle has a curly coat).
- On a class field trip to a greenhouse, the teacher showed [student's name] a variety of roses and asked how they were different from each other. [Student's name] verbally stated at least two ways in which the roses differed from each other (e.g., size, color, flaws in the petals, climbing rose vs. rose bush).
- [Student's name] drew and colored a representation of the goldfish in the class aquarium, then described his/her picture, including the differences among the various fish (e.g., the bubble-eye, the lion-head, the gold oranda, the black oranda, the one with the white scales).

Content Standard: LIFE SCIENCE (Diversity and Adaptation Among Living Things)

Standard: *The student will understand that living things have characteristics that enable them to survive in their environment.*

Alternate Learning Expectation (ALE): LS.3A. *Recognize the differences among plants and animals of the same kind, including the features that help them to survive in different environments*

Alternate Performance Indicator (API): LS.3A.4 *Identify similarities of plants and animals*

Sample Activities:

- [Student's name] and a peer looked through an encyclopedia of horse breeds and talked about the ways in which the various breeds are the same (e.g., four legs, a mane, a long face, hooves).
- On a class field trip to a greenhouse, the teacher showed [student's name] a variety of flowers and asked how they were different from each other. [Student's name] verbally stated at least two ways in which the flowers were similar to each other (e.g., leaves, petals, roots).
- [Student's name] drew and colored a representation of the tropical fish in the class aquarium, then described his/her picture, including the similarities between the various fish (e.g., fins, gills, tail, basic body shape).
- [Student's name] participated in a class discussion of the ways in which plants and animals are similar to each other (e.g., they are alive; they need water and nourishment; they need air).

Content Standard: LIFE SCIENCE (Diversity and Adaptation Among Living Things)

Standard: *The student will understand that living things have characteristics that enable them to survive in their environment.*

Alternate Learning Expectation (ALE): LS.3A. *Recognize the differences among plants and animals of the same kind, including the features that help them to survive in different environments*

Alternate Performance Indicator (API): LS.3A.5 *Specify the features that enable a plant or animal to survive in its environment*

Sample Activities:

- Given a picture of a polar bear in the arctic, a fennec fox in the desert, and a maned wolf in the grasslands, [student's name] and a small group of peers discussed the features that help each animal survive in its environment (e.g., bear – dense fur, thickly furred webbed feet for swimming, layer of body fat for insulation, exceptionally long and sharp teeth for tearing at walrus and seals; fennec fox – large ears to dissipate heat, pale fur to reflect sun; maned wolf – stilt-like legs for peering over the tall grass).
- Given a description of an environment on an imaginary planet, [student's name] and a small group of peers created five imaginary creatures and two imaginary plants that might be able to live there. The group used markers and colored pencils to make a poster depicting the inhabitants of their planet and explained to the rest of the class the features that would allow their creations to survive in their environment.
- Shown pictures of five different animals in their natural environments, [student's name] described the features that allow each one to survive.

Content Standard: LIFE SCIENCE (Food Production and Energy for Life)

Standard: *The student will study the basic parts of plants, investigate how plants produce food, and discover that plants and animals use food to sustain life.*

Alternate Learning Expectation (ALE): LS.4A. *Recognize the basic requirements of all living things*

LS.4B. *Recognize the basic parts of plants*

Alternate Performance Indicator (API): LS.4A-B.1 *Express basic wants and needs*

Sample Activities:

- LS.4A.1: Given a communication board and asked to make a choice between juice and milk, [student's name] pointed to a picture of the desired drink. **Note: It is the symbol on the communication board that allowed this to be acceptable. Simply asking for or pointing to milk or juice is not acceptable.**
- LS.4A.1: While in the lunch line, [student's name] used picture exchange cards to order items for his/her lunch tray. **Note: It is the picture exchange card that made this acceptable. Simply asking for or pointing to food items is not acceptable.**
- LS.4B.1: Given a set of pictures depicting the plant-based ingredients for a salad—lettuce, tomato, carrots, cucumbers, onion, olives, and chick peas—plus three additional, unrelated pictures, [student's name] pointed to appropriate items for a tossed salad. [Student's name] then matched the pictures to the actual ingredients and helped make a salad from the chosen ingredients.
- LS.4B.1: Given a set of pictures depicting the plant-based ingredients for a fruit salad—apple, cherries, mandarin oranges, banana, grapes, and walnuts—plus three additional, unrelated pictures, [student's name] pointed to appropriate items for a fruit salad. [Student's name] then matched the pictures to the actual ingredients and helped make the fruit salad from the chosen ingredients.

Content Standard: LIFE SCIENCE (Food Production and Energy for Life)

Standard: *The student will study the basic parts of plants, investigate how plants produce food, and discover that plants and animals use food to sustain life.*

Alternate Learning Expectation (ALE): LS.4A. *Recognize the basic requirements of all living things*

LS.4B. *Recognize the basic parts of plants*

Alternate Performance Indicator (API): LS.4A-B.2 *Recognize the basic needs of living things (e.g., food, water, air, sunlight)*

Sample Activities:

- LS.4A.2: [Student's name] helped give food and water to the class gerbils.
- LS.4A.2: [student's name] was shown a pet guinea pig and allowed to pet it and hold it. Then [student's name] participated in a class discussion about the basic survival needs of the guinea pig (e.g., food, water, air, sunlight, a clean cage) and whether they are the same as ours.
- LS.4A.2: [Student's name] participated in a small-group project in which each student made a terrarium from a liter cola bottle, potting soil, pebbles, and seeds.
- LS.4A.2: [Student's name] planted marigold seeds in a pot using potting soil, placed the pot in the window, and watered the plant.
- LS.4B.2: [Student's name] took part in an experiment to show how plants get water and nutrients from their environment. A piece of celery was placed in a cup of water and food coloring. [Student's name] watched the food coloring move up the stalk and into the leaves, and then took part in a discussion of what happened and how it happened.
- LS.4B.2: [Student's name] looked at and touched a broadleaf plant. The teacher showed each part (e.g., root, stem, leaf) and explained how each part helps the plant attain nutrition, water, sunlight, and air. [Student's name] then correctly identified each part by pointing when asked to "show me the roots" or "show me the part that takes in sunlight."

Content Standard: LIFE SCIENCE (Heredity and Reproduction)

Standard: *The student will understand the basic principles of inheritance.*

Alternate Learning Expectation (ALE): LS.5A. *Recognize that living things reproduce*

LS.5B. *Recognize that offspring tend to resemble their parents*

Alternate Performance Indicator (API): LS.5A-B.1 *Respond to a familiar adult (e.g., teacher, parent, sibling)*

Sample Activities:

- LS.5A-B.1: The teacher called [student's name]'s name and used verbal and tactile cues to encourage him/her to turn his head toward the teacher. After three tries, [student's name] turned his/her head toward the teacher when his/her name was called.
- LS.5A-B.1: While going through the cafeteria line, [student's name] was greeted by a familiar cafeteria worker. [Student's name] responded by smiling and making eye contact.
- LS.5A-B.1: [Student's name] entered the classroom and was greeted by the teacher, who encouraged [student's name] to respond with a verbal greeting (e.g., "Hi") using a normal tone of voice and a polite demeanor.

Content Standard: LIFE SCIENCE (Heredity and Reproduction)

Standard: *The student will understand the basic principles of inheritance.*

Alternate Learning Expectation (ALE): LS.5A. *Recognize that living things reproduce*

LS.5B. *Recognize that offspring tend to resemble their parents*

Alternate Performance Indicator (API): LS.5A-B.2 *Match offspring with their parents (e.g., adult dog with puppy)*

Sample Activities:

- LS.5A.2: [Student's name] was shown a picture of a pregnant woman, a pregnant cat, and a bird with a nest full of eggs. Then [student's name] participated in a group discussion about the fact that living things reproduce.
- LS.5A.2: [Student's name] examined the following plants and their seeds: corn, marigold, dandelion, maple, watermelon, and daffodil. Then he/she participated in a discussion of how plants reproduce.
- LS.5B.2: Given a set of 10 two-piece animal puzzles (parent on one half, baby on the other), [student's name] correctly matched each parent to its offspring.
- LS.5B.2: [Student's name] assembled a 12-piece puzzle that matches animals to their offspring.
- LS.5B.2: On a field trip to a horse farm, [student's name] and a peer observed the mares and foals together and discussed the ways in which the foal is similar to its parents.
- LS.5B.2: Given two sets of picture cards (parent animals in one set, baby animals in the other), [student's name] matched the baby animals to the parent. Pictured animals were: horse/foal, cow/calf, seal/seal pup, frog/tadpole, sheep/lamb, snake/hatchlings, butterfly/caterpillar, cat/kitten, dog/puppy, duck/duckling.
- LS.5B.2: [Student's name] played a "Concentration"-type memory matching game in which adult animals are matched to their offspring (e.g., an adult pig to a piglet, a dog to a puppy).

Content Standard: LIFE SCIENCE (Heredity and Reproduction)

Standard: *The student will understand the basic principles of inheritance.*

Alternate Learning Expectation (ALE): LS.5A. *Recognize that living things reproduce*

LS.5B. *Recognize that offspring tend to resemble their parents*

Alternate Performance Indicator (API): LS.5A-B.3 *Recognize all living things come from other living things*

Sample Activities:

- LS.5A.3: After watching a video about baby animals, [student's name] participated in a group discussion about how all animals come from parents of the same species.
- LS.5A.3: On a field trip to a farm, [student's name] petted a mother collie, petted and held her six-week-old puppies, and took part in a discussion about how all animals come from parents of the same species.
- LS.5A.3: [Student's name] and a small group of peers examined a lima bean that had been soaked overnight. [Student's name] looked at the seed through a magnifying glass, tried to peel off the outer seed covering, split the seed in half, drew the bean/seed, and labeled the different parts of the seed.
- LS.5B.3: After hatching baby chicks in an incubator, [student's name] looked at pictures of an adult hen and a rooster, He/she and the teacher discussed the ways in which the babies resembled the parents.

Content Standard: LIFE SCIENCE (Biological Change)

Standard: *The student will understand that living things have changed over time.*

Alternate Learning Expectation (ALE): LS.6A. *Recognize that some plants and animals that once lived are no longer found on earth*

Alternate Performance Indicator (API): LS.6A.1 *Identify animals that are extinct (e.g., dinosaurs)*

Sample Activities:

- [Student's name] and the rest of the class were read a picture book about dinosaurs. To demonstrate the size of some dinosaurs, the class was shown a life-sized paper outline of a T-Rex footprint. [Student's name] and peers tried to guess how many children's footprints would fit inside the T-Rex footprint. Each child stepped into the footprint, and the teacher traced his/her feet. This process continued until the T-Rex footprint was completely filled with student footprints. Then students then counted students footprints and compared the actual number with their guesses.
- [Student's name] listened to the book *Ten Terrible Dinosaurs*, and then recreated the story using flannel board figures, with the help of a peer partner.
- [Student's name] made a diorama of a prehistoric landscape, complete with plastic dinosaurs. Terrain was made from construction paper.
- After a class discussion about paleontologists and how they dig up fossils, [student's name] helped make plaster castings of "dinosaur footprints" (previously made by the teacher in a tub of wet, packed sand). After the plaster dried, the plaster footprints were buried in sand for [student's name] to carefully dig up using plastic excavation tools and a brush (to brush away the sand).
- [Student's name] helped a small group of peers make stick puppets of dinosaurs and a backdrop modeled after a prehistoric landscape. Then the group performed an original puppet show about how dinosaurs lived and how they became extinct.
- After watching the video *Walking with Dinosaurs*, [student's name] participated in a class discussion about dinosaurs.
- [Student's name] listened to a peer read from the book *I Wonder Why the Dodo is Dead*, a book about extinct and endangered creatures. Then [student's name] made a papier-mâché dodo egg and a paper bag puppet of a dodo bird.

Content Standard: EARTH SCIENCE (Earth and Its Place in the Universe)

Standard: *The student will investigate the structure of the universe.*

Alternate Learning Expectation (ALE): ES.1A. *Recognize that different objects appear in the day and nighttime sky*

ES.1B. *Recognize that there are predictable patterns which occur in the universe*

Alternate Performance Indicator (API): ES.1A-B.1 *Recognize night and day*

Sample Activities:

- ES.1A.1: [Student's name] matched a sun picture to pictures of activities that occur in the daytime and a moon picture to pictures of activities that occur at night.
- ES.1A.1: Shown 10 pictures, five depicting day and five depicting night, [student's name] placed the daytime pictures in one pile and the nighttime pictures in another.
- ES.1B.1: [Student's name] and two peers acted out the movement of the Earth around the sun and the moon around the Earth. The child depicting the sun shone a large flashlight on the Earth and moon at appropriate times. Each child had a chance to play all three parts. The group discussed the fact that the part of the Earth facing away from the sun's light (the flashlight) is having night, while the part facing the sun is having day.
- ES.1B.1: [Student's name] used Styrofoam balls and wire to help make a model demonstrating the orbits of Earth around the sun and the moon around the Earth. With help as needed, [student's name] shone a penlight from the sun to the Earth to show how the rotation of the earth creates day and night.
- ES.1B.1: Using a flashlight to represent the sun and a globe to represent the Earth, [student's name] explored how the sun's light and the Earth's rotation create day and night.

Content Standard: EARTH SCIENCE (Earth and Its Place in the Universe)

Standard: *The student will investigate the structure of the universe.*

Alternate Learning Expectation (ALE): ES.1A. *Recognize that different objects appear in the day and nighttime sky*

ES.1B. *Recognize that there are predictable patterns which occur in the universe*

Alternate Performance Indicator (API): ES.1A-B.2 *Sequence daily events in relation to the student's environment (e.g., schedule)*

Sample Activities:

- ES.1A.2: Given a set of four picture cards—boy waking up with sun shining through window, boy playing outside with sun shining, boy watching TV with moon shining through window, and boy sleeping with moon shining through window—[student's name] placed the cards in sequential order.
- ES.1B.2: Given two cause-and-effect picture cards, [student's name] correctly placed the picture cards in chronological order. (Prerequisite)
- ES.1B.2: Given a picture sequence of the steps involved in baking chocolate cupcakes, [student's name], with help, followed the sequence of instructions, and then shared the cupcakes with the class.
- ES.1B.2: [Student's name] was given his/her daily schedule, a pocket folder with pictures of the day's activities Velcroed to the right-hand side of the folder. [Student's name] showed a peer what came after Reading class (Art) by removing the Reading card from the Velcro, placing it in the "completed" pocket on the left, and pointing to the Art card on the right. **Note: When describing the use of a daily schedule, you must choose one occurrence of use to describe, rather than giving an overview of an entire day, week, month, etc.**
- ES.1B.2: [Student's name] used his/her daily schedule after math class to be prepared for each event in the school day (P.E.). As math class was completed, [student's name] drew a happy face beside it, looked on the schedule to see what event was to occur next, and prepared for the next event (e.g., changing to P.E. shoes, lining up to go to the gym). **Note: When describing the use of a daily schedule, you must choose one occurrence of use to describe, rather than giving an overview of an entire day, week, month, etc.**
- ES.1B.2: After [student's name]'s math lesson, a peer helped [student's name] place a sticker beside the "math" icon on his/her paper schedule. The peer asked [student's name] what came next and used verbal prompts and gestures to help [student's name] point to the "science" icon and name the class (Science) to occur next. [Student's name] and peer discussed what preparations would be needed for that next class (e.g., going to the science area, getting his/her project to share with the class). **Note: When describing the use of a daily schedule, you must choose one occurrence of use to describe, rather than giving an overview of an entire day, week, month, etc.**

Content Standard: EARTH SCIENCE (Earth and Its Place in the Universe)

Standard: *The student will investigate the structure of the universe.*

Alternate Learning Expectation (ALE): ES.1A. *Recognize that different objects appear in the day and nighttime sky*

ES.1B. *Recognize that there are predictable patterns which occur in the universe*

Alternate Performance Indicator (API): ES.1A-B.3 *Identify day and night*

Sample Activities:

- ES.1A.3: Given a set of 10 photographs, five of which show nighttime scenes and five of which show daytime scenes, and asked, “Is this day or night?” [student’s name] correctly identified each picture by signing “day” or “night.”
- ES.1B.3: Using the Google Earth computer program, [student’s name] identified various parts of the world as having daytime or nighttime as the teacher pointed to each location.

Content Standard: EARTH SCIENCE (Atmospheric Cycles)

Standard: *The student will investigate the relationships among atmospheric conditions, weather, and climate.*

Alternate Learning Expectation (ALE): E.S2A. *Recognize daily and seasonal weather changes*

ES.2B. *Realize that weather is associated with temperature, precipitation, and wind conditions and can be measured using tools and instruments*

Alternate Performance Indicator (API): ES.2A-B.1 *Identify daily weather conditions (e.g., hot, cool, sunny, snowy, and rainy)*

Sample Activities:

- ES.2A.1: From five different weather pictures—rainy, snowy, sunny, cloudy, and partly cloudy—[student's name] chose the correct weather picture to represent the day's weather condition and placed it on the weather graph.
- ES.2A.1: During Morning Meeting, [student's name] told the group whether it was hot/cold or cloudy/sunny outside, then put the correct picture on the calendar.
- ES.2B.1: [Student's name] made a construction paper thermometer with a sliding red strip to represent the mercury. On request, [student's name] slid the red strip up (for hot) or down (for cold) to indicate whether it was hot or cold outside.
- ES.2B.1: On the morning of a rainy day, [student's name] prepared for this activity by putting out a measuring cup and a regular coffee mug to collect water. At the end of the day, [student's name] measured the amount of rainfall in two different ways: by using the measurement marks on the measuring cup and by holding a ruler upright in the coffee cup to see how far up the ruler the water came.
- ES.2B.1: Given 10 photos of various weather conditions (e.g., cool, hot, clear and sunny, cloudy, raining, snowing), [student's name] selected one photo at a time and described the weather conditions depicted in the photo.

Content Standard: EARTH SCIENCE (Atmospheric Cycles)

Standard: *The student will investigate the relationships among atmospheric conditions, weather, and climate.*

Alternate Learning Expectation (ALE): E.S2A. *Recognize daily and seasonal weather changes*

ES.2B. *Realize that weather is associated with temperature, precipitation, and wind conditions and can be measured using tools and instruments*

Alternate Performance Indicator (API): ES.2A-B.2 *Associate clothing and activity choices with various types of weather*

Sample Activities:

- ES.2A.2: A peer asked [student's name] what the weather outside was like. [Student's name] answered, and the peer recorded [student's name]'s answer on a piece of poster board. Then [student's name] chose a catalog and cut out pictures of clothes that would be appropriate to wear for that type of weather. After cutting out the clothes, [student's name] glued them on the poster board.
- ES.2A.2: Before going outside on a nature walk to collect fall leaves, [student's name] was asked whether or not he/she would need a jacket, hat, or gloves. [Student's name] responded verbally and discussed his/her choices with the teacher (yes to a jacket, no to hat and gloves).
- ES.2B.2: [Student's name] was given three fashion dolls and clothing for a variety of weather conditions. Next, [student's name] drew one of three weather cards—hot, cold, and raining—and dressed the first doll appropriately for the weather condition depicted on the card. [Student's name] repeated the process for each of the remaining weather condition cards.
- ES.2B.2: Given a paper doll and clothing for a variety of weather conditions, [student's name] dressed the doll appropriately for each of five types of weather the teacher described (e.g., snowing, sunny, raining).
- ES.2B.2: [Student's name] logged onto the computer, got onto the Weather Channel website, and found the 10-day forecast. He/she verbally stated the weather for the week, told what clothing he/she would wear outside, and with the help of a peer, designed a weekend activity chart based on the weather.
- ES.2B.2: Using magnets and a magnetic picture board, [student's name] dressed a magnetic doll according to a weather picture card (e.g., sunny, raining, snowing) presented by the teacher.
- ES.2B.2: [Student's name] verbally discussed what clothing and activities would be appropriate for each of five weather picture cards (e.g., raining, sunny, snowing) presented by the teacher.

Content Standard: EARTH SCIENCE (Atmospheric Cycles)

Standard: *The student will investigate the relationships among atmospheric conditions, weather, and climate.*

Alternate Learning Expectation (ALE): E.S2A. *Recognize daily and seasonal weather changes*

ES.2B. *Realize that weather is associated with temperature, precipitation, and wind conditions and can be measured using tools and instruments*

Alternate Performance Indicator (API): ES.2A-B.3 *Identify the appropriate tool for measuring temperature*

Sample Activities:

- ES.2A.3: Given a cardboard model of a thermometer with a sliding indicator (a red rubber band with a button that could be moved up and down), and shown picture cards representing various seasons and weather conditions (e.g., a girl wearing a sweater and raking fall leaves, two children building a snowman, a boy in a bathing suit on the beach), [student's name] correctly moved the indicator up (for warmer) or down (for cooler) to indicate a reasonable temperature
- ES.2B.3: Given pictures of a thermometer, compass, clock, ruler, and measuring cup and asked which is used for measuring temperature, [student's name] correctly chose the thermometer.

Content Standard: EARTH SCIENCE (Atmospheric Cycles)

Standard: *The student will investigate the relationships among atmospheric conditions, weather, and climate.*

Alternate Learning Expectation (ALE): E.S2A. *Recognize daily and seasonal weather changes*

ES.2B. *Realize that weather is associated with temperature, precipitation, and wind conditions and can be measured using tools and instruments*

Alternate Performance Indicator (API): ES.2A-B.4 *Identify seasons*

Sample Activities:

- ES.2A.4: [Student's name] painted four different trees, one to represent each of the four seasons (i.e., fall—autumn leaves, winter—bare branches, spring—budding leaves, summer—lush green leaves).
- ES.2A.4: [Student's name] went on a nature hike to gather different types and colors of autumn leaves, then put them in a scrapbook about autumn.
- ES.2A.4: [Student's name] made large autumn leaves by cutting matching pairs of leaf shapes from wax paper, scraping crayon shavings—red, yellow, orange, and brown—onto waxed paper, and (with the teacher's help) ironing the two pieces of wax paper so that they melted together with the crayon shavings melted between them. The result resembled stained glass.
Note: There was a light cloth between the hot iron and the waxed paper to prevent the wax from melting onto the iron.
- ES.2A.4: [Student's name] helped make a large multimedia mural of the four seasons (e.g., construction paper flowers and yarn grass for spring, cotton batting for winter snow, leaves made from waxed paper and crayon shavings for fall)
- ES.2B.4: Given four pictures, one representing each season, [student's name] pointed to the correct picture when the teacher named the season represented on it. Then, upon request, [student's name] named weather conditions associated with each season.
- ES.2B.4: On a whiteboard divided into four columns, one labeled for each season, [student's name] listed weather conditions associated with each season in the appropriate columns.

Content Standard: EARTH SCIENCE (Earth Features)

Standard: *The student will understand that the earth has many geological features that are constantly changing.*

Alternate Learning Expectation (ALE): ES.3A *Identify the earth's major geological features*

Alternate Performance Indicator (API): ES.3A.1 *Distinguish between land and water*

Sample Activities:

- [Student's name] helped a small group of peers make a large salt-and-flour map of the continents and oceans. The salt-and-flour mixture for the oceans was tinted with blue food coloring. The mixture for the land was uncolored. After the map dried, they painted it.
- [Student's name] used colored pencils to color a world map identifying the Earth's major features. He/she colored the land brown and green and the water blue.
- Given a globe and a laser pointer, [student's name] correctly pointed to land or water as verbally directed by the teacher.

Content Standard: EARTH SCIENCE (Earth Features)

Standard: *The student will understand that the earth has many geological features that are constantly changing.*

Alternate Learning Expectation (ALE): ES.3A *Identify the earth's major geological features*

Alternate Performance Indicator (API): ES.3A.2 *Identify the earth's major geological features (e.g., land masses, mountains, oceans, lakes, and rivers)*

Sample Activities:

- The class was shown a film about the landscape of Tennessee. After the film, [student's name] participated in a class discussion about the different geological features found in Tennessee. As part of a group activity, [student's name] drew examples of a lake, a mountain, and a river and labeled them, with help from peers and a reference book.
- [Student's name] used a pointer to demonstrate understanding of landforms on a topological globe by pointing to each landform as the teacher named it.
- [Student's name] made a papier-mâché globe. He/she used the science textbook as a reference to draw the continents and paint them various shades of green and brown and to paint the rivers, lakes, and oceans blue.

Content Standard: EARTH SCIENCE (Earth Resources)

Standard: *The student will investigate the properties, uses, and conservation of earth's resources.*

Alternate Learning Expectation (ALE): ES.4A. *Recognize that there are a variety of earth materials which have basic observable and measurable properties*

Alternate Performance Indicator (API): ES.4A.1 *Recognize that there are a variety of earth materials (e.g., rocks, soil, pebbles, and sand)*

Sample Activities:

- Given five jars, each containing a different type of earth material (e.g., rocks, soil, small pebbles, sand), [student's name] explored the jars by looking at and touching the contents of each one. The teacher named each one, and [student's name] repeated each name.
- Given five jars, each containing a different type of earth material (e.g., rocks, soil, small pebbles, sand), [student's name] correctly identified them by pointing to each as the teacher named it.
- Given five jars, each containing a different type of earth material (e.g., rocks, soil, small pebbles, sand), [student's name] correctly identified them by naming each as the teacher pointed to it.
- While on a nature walk, [student's name] used a disposable camera to take pictures of different types of earth materials (e.g., rocks, soil, small pebbles, sand).

Content Standard: EARTH SCIENCE (Earth Resources)

Standard: *The student will investigate the properties, uses, and conservation of earth's resources.*

Alternate Learning Expectation (ALE): ES.4A. *Recognize that there are a variety of earth materials which have basic observable and measurable properties*

Alternate Performance Indicator (API): ES.4A.2 *Identify an object as natural or man-made*

Sample Activities:

- Given 10 items—pencil sharpener, rock, turtle shell, toy car, pencil, leaf, shoe, bird's nest, flower, and drinking straw—[student's name] discussed with the teacher whether each object was natural or man-made and how he/she could tell.
- Given 10 items—pencil sharpener, rock, turtle shell, toy car, pencil, leaf, shoe, bird's nest, flower, and drinking straw—and two shoeboxes labeled “nature” and “man,” [student's name] put each object in the appropriate box.

Content Standard: EARTH SCIENCE (Earth Resources)

Standard: *The student will investigate the properties, uses, and conservation of earth's resources.*

Alternate Learning Expectation (ALE): ES.4B. *Demonstrate understanding that earth materials can be recycled or conserved*

Alternate Performance Indicator (API): ES.4B.1 *Identify ways that Earth's resources benefit man*

Sample Activities:

- Given magazines and scissors, [student's name] and a group of peers cut out pictures of natural resources that benefit man (e.g., tree, river, stone). Then [student's name] participated in a group discussion about how each of the resources might be used to make people's lives better.
- [Student's name] participated in a class discussion about the ways in which trees are beneficial to man (i.e., clean the air, provide wood for building). Then [student's name] helped the class plant a tree.
- Using art paper, markers and/or colored pencils, pictures cut from magazines, and brads and a hole puncher for binding, [student's name], with the help of a peer, made a 20-page booklet showing 10 natural resources that benefit man (e.g., tree, river, stone). Each resource had two pages, one showing the resource in its natural state and one showing ways in which the resource could be used.
- Using erasable markers on whiteboard, [student's name] made a list of natural resources that benefit man.

Content Standard: PHYSICAL SCIENCE (Forces and Motion)

Standard: *The student will investigate the effects of force on the movement of objects.*

Alternate Learning Expectation (ALE): PS.1A. *Understand the basic concept that forces can move objects (push/pull)*

PS.1B. *Observe and predict how the weight of an object and its position affect balance*

Alternate Performance Indicator (API): PS.1A-B.1 *Recognize that a push or pull can move objects*

Sample Activities:

- PS.1A.1: [Student's name] activated a rocking pig by pushing a switch.
- PS.1A.1: [Student's name] pushed a kinetic sculpture to make it rock back and forth.
- PS.1A.1: Given a toy truck and a toy wagon with a pull-string attached, [student's name] used the string to pull the wagon along the table. Then [student's name] grasped the rear end of the truck and pushed the truck along the table.
- PS.1A.1: [Student's name] used his/her hand to push a Weeble and make it wobble.
- PS.1A.1: [Student's name] pushed the "Mr. Punching Clown" bop bag to make it rock.
- PS.1B.1: Given a skateboard and a variety of objects—a bag of flour, a Koosh ball, a hardback Oxford dictionary, and a yo-yo—[student's name] explored how the weight and position of an object affects its balance. [Student's name] placed each object on the skateboard and pushed the skateboard to see how easily it could be balanced and how it affected the movement of the board. He/she tried each object in several different positions (e.g., at the front of the skateboard, at the rear, or in the middle).
- PS.1B.1: [Student's name] made a paper airplane. Using varying numbers of paper clips to weight different sections of the plane, [student's name] explored how the weight and position of the paper clips affected the ability of the plane to fly.

Content Standard: PHYSICAL SCIENCE (Forces and Motion)

Standard: *The student will investigate the effects of force on the movement of objects.*

Alternate Learning Expectation (ALE): PS.1A. *Understand the basic concept that forces can move objects (push/pull)*

PS.1B. *Observe and predict how the weight of an object and its position affect balance*

Alternate Performance Indicator (API): PS.1A-B.2 *Recognize that objects can move in different directions and at different speeds on different surfaces*

Sample Activities:

- PS.1A.2: Given a toy car and four different surface samples—carpet, vinyl, wood, and ice, [student's name] conducted an experiment to find out which surface a toy car will travel fastest on. [Student's name] pushed the car three times on each surface and wrote whether the car went fast or slow, how far it went, and how it moved (e.g., whether it went in a straight line, veered randomly, spun around).
- PS.1B.2: Students played kickball, first on the gym floor and then on grass turf. Afterward, [student's name] participated in a group discussion of the difference in the way the ball moved on the different surfaces.
- Given five boards, each with a different texture—carpet, vinyl, cork, sponge, and Astroturf—and a variety of marbles and small balls, [student's name] and a peer group experimented to determine if the marbles and balls rolled differently on the different surfaces.
- [Student's name] and a group of peers were given a number of balls, toy cars, and various other items that could be rolled. Then the group made ramps from whiteboards, books, and other classroom items. [Student's name] experimented by rolling different items down the ramps and onto different surfaces (e.g., carpet, tile, grass), and then saw what happened when the ramp was made steeper or less steep. Tunnels (oatmeal boxes, paper towel rolls, and curved plastic gerbil tunnels) were added, so [student's name] could roll the ball down the ramp and into the tunnels to change direction. He/she made predictions and then discussed the results (e.g., how far each toy went, which went the fastest, why it might have happened that way).
- [Student's name] played the “Forces in Action” game on the BBC Schools website: http://www.bbc.co.uk/schools/ks2bitesize/science/physical_processes/. To play the game, [student's name] clicked on buttons and levers to increase or decrease the incline of a track, then released a virtual truck and measured how the incline affected the distance the truck traveled.

Content Standard: PHYSICAL SCIENCE (Structure and Properties of Matter)

Standard: *The student will investigate the characteristic properties of matter.*

Alternate Learning Expectation (ALE): PS.2A. *Recognize that objects have observable properties that can change over time and under different conditions*

Alternate Performance Indicator (API): PS.2A.1 *Describe objects according to simple properties (e.g., shape, size, color, weight, texture, floating, sinking, flexibility)*

Sample Activities:

- Using a wooden bead, a fishing bobber, a piece of clay, an aluminum nut, a glass marble, and a large wooden cylinder, [student's name] described each item and predicted whether it would float or sink in water. Then the item was placed in water to see if [student's name] was correct. After the activity, the teacher led a group discussion about the properties of the floating objects versus the properties of the sinking objects. [Student's name] participated by sharing his/her observations and conclusions.
- During a class activity about the density of objects, [student's name] and a peer partner wrote down a list on notebook paper of classroom objects small enough to be used in a float/sink test (e.g., pencil, paper clip, ballpoint pen, ruler). He/she made a checkmark beside each object he/she thought would float and an X beside each object he/she thought would sink. Then he/she tested the results by placing the objects in a container of water and observing whether they floated or sank. [Student's name] marked on his or her paper whether his/her predictions were correct.
- The class was divided into two teams. Different items—a wooden block, a flexible straw, a marble, a golf ball, and a pipe cleaner—were placed into two Ziplock bags. A player from each team was blindfolded and reached into bag. The player described the object based on size, shape, flexibility, and whether [student's name] believed the item would float. The player then tried to guess which object he or she had chosen. The team with the most correct answers won. When it is [student's name]'s turn to guess, a peer tutor provided assistance.
- [Student's name] was given a collection of long, slim objects (pencil, pen, pick-up stick, bendable straw, pipe cleaner, dowel, florist's wire). He/she picked up each one and attempted to bend it, then sorted the objects into two groups—flexible and rigid. [Student's name] and the teacher discussed the differences between the two groups.

Content Standard: PHYSICAL SCIENCE (Structure and Properties of Matter)

Standard: *The student will investigate the characteristic properties of matter.*

Alternate Learning Expectation (ALE): PS.2A. *Recognize that objects have observable properties that can change over time and under different conditions*

Alternate Performance Indicator (API): PS.2A.2 *Sort objects according to weight, length, and size*

Sample Activities:

- [Student's name] worked with peers to construct a gingerbread house. There were several pieces to the house. [Student's name] worked with peers to sort the pieces and line them up according to length so matching pieces could be easily spotted. Then he/she sorted the candy pieces according to weight so the heaviest pieces were placed on the walls and the lightest-weight candies were placed on the roof.
- In Music class, [student's name] helped put away the musical instruments, sorting the harmonicas and recorders by length.
- [Student's name] helped put away the playground balls by separating balls of different sizes into different barrels—beach balls into one barrel, basketballs and rubber playground balls into another, and small balls, such as baseballs and wiffle balls into yet another.

Content Standard: PHYSICAL SCIENCE (Structure and Properties of Matter)

Standard: *The student will investigate the characteristic properties of matter.*

Alternate Learning Expectation (ALE): PS.2A. *Recognize that objects have observable properties that can change over time and under different conditions*

Alternate Performance Indicator (API): PS.2A.3 *Distinguish between solids and liquids*

Sample Activities:

- While blindfolded, [student's name] handled items sorted into various Ziplock baggies—water, soup, pudding, marbles, blocks, and rocks—and stated whether they were solids or liquids.
- Using 20 picture cards of various solids and liquids and two sorting baskets (one labeled “solids” and one labeled “liquids”), [student's name] sorted the cards by placing each card into the appropriately labeled basket.
- [Student's name] and the rest of the class discussed foods that change from liquids to solids when heated, frozen, or shaken (e.g., cake batter, ice, eggs). Then [student's name] made butter to observe how a food changes. [Student's name] poured heavy cream into a jar with a tight-fitting lid and then shook the cream. The other students in the class helped by taking turns shaking the jar. While waiting for the cream to turn to butter, [student's name] participated in a class discussion about how the butter was formed from the liquid. After the butter formed, the class used it to make buttered toast, which everyone then ate.

Content Standard: PHYSICAL SCIENCE (Energy)

Standard: *The student will investigate energy and its uses.*

Alternate Learning Expectation (ALE): PS.3A *Identify the sun as the main source of earth's heat and light energy*

Alternate Performance Indicator (API): PS.3A.1 *Respond to light*

Sample Activities:

- When the teacher shone a flashlight on the wall near [student's name], he/she followed the beam with his/her gaze.
- [Student's name] looked at the rainbows made by a prism in sunlight. The teacher gave [student's name] verbal and tactile cues to call his/her attention to the rainbows, then gave hand-over-hand assistance to help [student's name] make rainbows of his/her own.

Content Standard: PHYSICAL SCIENCE (Energy)

Standard: *The student will investigate energy and its uses.*

Alternate Learning Expectation (ALE): PS.3A *Identify the sun as the main source of earth's heat and light energy*

Alternate Performance Indicator (API): PS.3A.2 *Respond to sound*

Sample Activities:

- The teacher stood beside [student's name] and shook a maraca to one side of [student's name]'s head, then the other. [Student's name] turned his/her head toward the sound six out of eight times.
- When a peer partner shook a rain stick near [student's name], he/she looked directly at the rain stick four out of five times.

Content Standard: PHYSICAL SCIENCE (Energy)

Standard: *The student will investigate energy and its uses.*

Alternate Learning Expectation (ALE): PS.3A *Identify the sun as the main source of earth's heat and light energy*

Alternate Performance Indicator (API): PS.3A.3 *Identify the sun as the source of the earth's heat and light energy*

Sample Activities:

- [Student's name] and a small group of peers went outside with the teacher and answered questions about how the sun felt on their faces, how the sun gives us light, and how it gives heat and light to the earth.
- During library, [student's name] watched a movie about the sun's role in giving the earth heat and energy. He/she participated in a class discussion about the movie. The librarian led the discussion.
- [Student's name] listened to the teacher read the book *The Sun: Our Nearest Star* aloud, then discussed the book with the teacher and two peers.
- The class was divided into small groups. [Student's name] and his/her group built a mini-solar car from instructions found at: <http://www.xof1.com/educationmini.html>. When each group had completed a car, students raced the cars to see whose was the fastest.
- [Student's name] used a magnifying glass to make kindling in an aluminum pie tin smolder.

Content Standard: PHYSICAL SCIENCE (Energy)

Standard: *The student will investigate energy and its uses.*

Alternate Learning Expectation (ALE): PS.3B *Recognize that sound is produced when objects vibrate*

Alternate Performance Indicator (API): PS.3B.1 *Identify sounds*

Sample Activities:

- While singing “Old MacDonald had a Farm” with the class, [student’s name] repeated each animal sound. After the song was finished, [student’s name] and a peer tutor played a game in which one made an animal sound and the other named the animal that makes it. Then they played a version of the game in which one named an animal and the other made the appropriate (matching) animal sound.
- When the teacher played a CD of individual musical instruments, each playing a few bars of the same tune, [student’s name] named each instrument when it began to play.
- [Student’s name] sat blindfolded in a chair while a peer played various musical instruments—triangle, drum, cymbals, bells, and recorder. [Student’s name] named each instrument as it was played.
- [Student’s name] listened to a recording of various sound effects (e.g., rain, ocean, frogs, birdsong, train, car horn) and named each sound.
- When given a choice of two pictures and exposed to a recording of a sound made by the object/animal in one of the pictures, [student’s name] pointed to the picture of the object/animal that made the sound.

Content Standard: PHYSICAL SCIENCE (Energy)

Standard: *The student will investigate energy and its uses.*

Alternate Learning Expectation (ALE): PS.3B *Recognize that sound is produced when objects vibrate*

Alternate Performance Indicator (API): PS.3B.2 *Distinguish different sounds and their sources*

Sample Activities:

- [Student's name] was given a picture BINGO card and a choice of markers. [Student's name] listened to sounds on a tape and marked the pictures of the objects/animals that made each sound.
- [Student's name] was blindfolded inside a large circle. One peer was given a whistle and another peer was given a rattle. [Student's name] was told to tag either the student with the whistle or the one with the rattle. The peers moved slowly around in the circle constantly sounding their instruments. [Student's name] tagged the one making the designated sound by distinguishing that sound from the other one and determining its source.

Content Standard: PHYSICAL SCIENCE (Energy)

Standard: *The student will investigate energy and its uses.*

Alternate Learning Expectation (ALE): PS.3B *Recognize that sound is produced when objects vibrate*

Alternate Performance Indicator (API): PS.3B.3 *Classify sounds according to their basic characteristics (e.g., loud and soft, natural or manmade)*

Sample Activities:

- [Student's name] listened to a CD of different sounds (e.g., birdsong, rain falling, car engine revving, train whistle). For each sound, [student's name] stated whether the sound was natural or manmade.
- While the teacher played music on a CD player, adjusting the volume up or down, [student's name] signaled "thumbs up" when the music got louder and a "thumbs down" when it got softer.